Loops

Thursday, August 19, 2021 8:01 PM

Concept Explaination.

What if I told you to take input 500 times and all of them.

Repititions of instructions are called Loop.

- We have two types of loops ① Count-Controlled ② Post-Condition.
  ③ Pre-Condition

Count-Controlled

For ... To ... Next

Post-Condition.

Repeat ... until

Precondition.

While ... do ... Endwhile

Characteristics

FOR ... TO ... NEXT	While ... do ... Endwhile	Repeat ... until
• Repitition know	Repitition unknown	Repitition unknown
• Count-Controlled loop	Conditional loop	Conditional loop
• No condition	Pre-Condition	Post-Condition.
• No use of count = Count+1	Use of count = count+1	use of count = Count +1
logic: Fixed iteration always execute.	logic: loop will run until condition remains true	logic: loop will run until condition remains False.

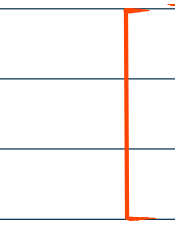
IF You want to do something 10 times

FOR-TO--NEXT

```
FOR Count = 1 to 10
    |
    |
ENDFOR
```

While--do--Endwhile

```
Count = 0
while count < 10  Do
    Count = Count + 1
```



ENDWHILE

REPEAT ... UNTIL

Count = 0

Repeat

Count = Count + 1

Until count = 10

Question: Input 500 names and print in the format (Hello name) with suitable message

FOR ... TO ... NEXT	WHILE ... DO ... ENDWHILE	REPEAT ... UNTIL
Declare count : Integer	Declare count : Integer	Declare count : Integer
Declare name, final : string	Declare name, final : string	Declare name, final : string
For count = 1 to 500	Count = 0	Count = 0
Print "Enter name"	While count < 500 Do	Repeat
Input Names	Count = Count + 1	Count = Count + 1
Final = "Hello" & " " & names	Print "Enter name"	Print "Enter name"
Print final	Input Names	Input Names
EndFor	Final = "Hello" & " " & names	Final = "Hello" & " " & names

EndFor.

Final = "Hello" & " " & Names

Print final

EndWhile

Final = "Hello" & " " & Names

Print final

Until count = 500

Programming Technique.

① Sum

Sum = 0 (outside loop)

Sum = Sum + Number (inside loop)

Question: Input 10 numbers and print the sum of those 10 numbers.

```
Declare Sum: integer
Declare Cnt: integer.

Sum = 0
For count = 1 to 10
    input Number
    sum = sum + Number
ENDFOR
Print sum ~> should be outside loop.
```

Do Them In While---Do----EndWhile.

② Counting

Thing count = 0 (outside loop)
Thing Count = ThingCount + 1 (inside loop)

Question : input 500 numbers and print how many numbers are positive

```
Positive = 0
FOR count = 1 to 500
    Input N1
    IF N1 > 0
        Then
            positive = positive + 1
    ENDIF
End For.
```

Question: Input 499 numbers and print how many numbers are positive, negative and zero. with suitable message. (use repeat until)

FLAG LOOPING

Question : Ask for input again and again until the correct format of the password is used ?

- Always use conditional loop

- Always use conditional loop

```
Declare correct : Boolean
DECLARE Pass : String
DECLARE First Character : String
Correct = False
While Correct = False Do
    PRINT "ENTER YOUR PASSWORD"
    INPUT Pass
    First Character = LEFT(Pass, 1)
    IF First character >= A AND First character <= Z
        THEN
            PRINT "Approve"
            Correct = True
        ELSE
            PRINT "Re-write your password"
    ENDIF
ENDWHILE
```

Write the same code using repeat...until